What is claimed is:

1. A method for obtaining ultrasound images, comprising:

transmitting first and second ultrasound beams along a common scan line into a region of interest (ROI) of a patient;

receiving first and second echoes from said ROI, said first echo representing reflections along an entire scan line of said first ultrasound beam, said second echo representing reflections of said entire scan line of said second ultrasound beam; and

combining said first and second echoes along said entire scan line to form a composite scan line in an ultrasound image.

2. The method of claim 1, wherein said transmitting step further comprises: transmitting said first and second ultrasound beams at different first and second transmission frequencies.

3. The method of claim 1, wherein said transmitting step further comprises: transmitting said first and second ultrasound beams at different first and second transmission burst lengths.

4. The method of claim 1, wherein said transmitting step further comprises: transmitting said first and second ultrasound beams at different first and second transmission focus depths.

5. The method of claim 1, wherein said transmitting step further comprises: transmitting said first and second ultrasound beams at different first and second transmission apertures.

6. The method of claim 1, wherein said receiving step further comprises: receiving said first and second echoes at different first and second receive frequencies.

7. The method of claim 1, wherein said receiving step further comprises: receiving said first and second echoes at different first and second receive bandwidths.

8. The method of claim 1, wherein said receiving step further comprises: receiving said first and second echoes at different first and second receive focus depths.

9. The method of claim 1, further comprising:

multiplying said first and second echoes with at least one weighting factor to form first and second weighted echoes; and

summing said first and second weighted echoes.

10. The method of claim 9, wherein the at least one weighting factor equals 1/N, wherein N is equal to a number of ultrasound beams transmitted along a common scan line in said transmitting step.

11. The method of claim 10, wherein:

said transmitting step further comprises transmitting said first and second ultrasound beams at different focus depths and at different transmission apertures; and

said receiving step further comprises receiving said first and second echoes at different receive center frequencies.

12. The method of claim 1, wherein said transmitting step transmits at least three ultrasound beams and said receiving step receives at least three echoes along said entire scan line that are combined to form said composite scan line.

C1

13. A method for obtaining ultrasound images, comprising:

transmitting first and second ultrasound beams along a common scan line into a region of interest (ROI) of a patient;

receiving first and second echoes from said ROI, said first echo representing reflections along an entire scan line of said first ultrasound beam, said second echo representing reflections of said entire scan line of said second ultrasound beam; and

combining said first and second echoes along said entire scan line to form a composite scan line in an ultrasound image;

wherein said first and second ultrasound beams are focused at predetermined different first and second depths along said scan line.

14. A method for obtaining ultrasound images, comprising:

transmitting first and second ultrasound beams along a common scan line into a region of interest (ROI) of a patient;

receiving first and second echoes from said ROI, said first echo representing reflections along an entire scan line of said first ultrasound beam, said second echo representing reflections of said entire scan line of said second ultrasound beam; and

combining said first and second echoes along said entire scan line to form a composite scan line in an ultrasound image;

wherein said first and second ultrasound beams are generated by exciting a plurality of transducer elements defining an aperture size of a probe, said first and second ultrasound beams being generated with a different number of transducer elements corresponding to different first and second aperture sizes.

15. The method of claim 14, wherein said receiving step further comprises: receiving said first and second echoes at different first and second receive focus depths.

16. A method for obtaining ultrasound images, comprising:

transmitting first and second ultrasound beams along a common scan line into a region of interest (ROI) of a patient, said first and second ultrasound beams being transmitted at different focus depths and at different transmission apertures;

receiving first and second echoes from said ROI, said first echo representing reflections along an entire scan line of said first ultrasound beam, said second echo representing reflections of said entire scan line of said second ultrasound beam, said first and second echoes being at different receive center frequencies;

multiplying said first and second echoes by a weighting factor equal to 1/N to form first and second weighted echoes, wherein N is equal to a number of ultrasound beams transmitted along a common scan line in said transmitting step; and

summing said first and second weighted echoes along said entire scan line to form a composite scan line in an ultrasound image.

17. A method for obtaining ultrasound images, comprising:

transmitting first and second ultrasound beams along a common scan line into a region of interest (ROI) of a patient;

receiving a plurality of first echoes and a plurality of second echoes from said ROI, said plurality of first echoes being received simultaneously and representing reflections along an entire scan line of said first ultrasound beam, said plurality of second echoes being received simultaneously and representing reflections along said entire scan line of said second ultrasound beam; and

combining said first plurality of echoes and second plurality of echoes along said entire scan line to form a composite scan line in an ultrasound image.

18. The method of claim 17, wherein said receiving step further comprises: receiving said first plurality of echoes and said second plurality of echoes at different first and second receive frequencies.

19. The method of claim 17, wherein said receiving step further comprises: receiving said first plurality of echoes and said second plurality of echoes at different first and second receive bandwidths.

20. The method of claim 17, further comprising:

multiplying said first plurality of echoes and said second plurality of echoes with at least one weighting factor to form a first plurality of weighted echoes and a second plurality of weighted echoes; and

summing said first and second pluralities of weighted echoes.

21. The method of claim 20, wherein the at least one weighting factor equals 1/N, wherein N is equal to a number of ultrasound beams transmitted along a common scan line in said transmitting step.

22. The method of claim 21, wherein:

said transmitting step further comprises transmitting said first and second ultrasound beams at different focus depths and at different transmission apertures; and

said receiving step further comprises receiving said first plurality of echoes and said second plurality of echoes at different receive center frequencies.

23. The method of claim 17, wherein said receiving step further comprises: receiving said plurality of first echoes and said plurality of second echoes at different first and second receive focus depths.